

22. (Amended) A storage system for use in a computer system including a host computer, the storage system comprising:

at least one storage device having a plurality of user-accessible storage locations;

a cache memory; and

a controller, coupled to the cache memory and the at least one storage device that controls access to the at least one storage device from the host computer, the controller being capable of writing data to a first storage location of the plurality of storage locations on the at least one storage device in response to a communication from the host computer that does not include the data to be written to the first storage location, the controller including means, responsive to the communication, for generating the data independently of any data passed from the host computer to the storage system.

REMARKS

Prior to further examination, and in response to the Final Office Action mailed October 25, 2000, Applicants respectfully request consideration and entry of this amendment.

Claims 1-22 are pending in this application.

In the Final Office Action, claims 1-22 were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,092,168 (Voigt) in view of U.S. Patent No. 5,379,212 (Sarner).

On January 23, 2001, Applicants submitted a Response to the Final Office Action which was not entered. (See Advisory Action mailed February 5, 2001.) Subsequent to the Advisory Action, on March 13, 2001, Applicants' attorneys telephoned Examiner Encarnacion to discuss the outstanding rejection. Applicants' attorneys thank Examiner Encarnacion for the courtesies extended to them during this telephone conference.

During the telephone conference, Examiner Encarnacion further clarified the rejection of claims 1-22 over Voigt in view of Sarner. Specifically, and with respect to the storage system 24 of Voigt (Fig. 2), the Examiner stated that the free space list 70 in the storage system memory 62 could be interpreted as the plurality of storage locations recited in Applicants' claim 1. With respect to Sarner, the Examiner stated that memory locations within the main memory device 1 could be interpreted similarly. The Examiner further stated that he believed that Applicants' claim 1 could

also be read upon known storage devices that receive data from a host computer and compress that data prior to writing the compressed data to storage locations in the storage device.

On April 13, 2001, Applicants submitted a draft amendment with proposed amendments to independent claims 1, 12, and 22 that were believed to patentably distinguish over the combination of Voigt and Sarner, and further over storage devices that utilize data compression techniques. In a subsequent telephone conversation with Examiner Encarnacion on April 18, 2001, the Examiner indicated that, based upon his initial review of the proposed claim amendments, he agreed that the claims patentably distinguished over Voigt and Sarner, as well as storage devices utilizing data compression techniques. The Examiner indicated that he would fully consider the proposed claim amendments if they were formally submitted.

The amendments to claims 1-6, 8-10, 12-17, 19, 20, and 22 presented herein are identical to those submitted in draft form on April 13, 2001. As noted above, each of independent claims 1, 12, and 22 has been amended to patentably distinguish over the combination of Voigt and Sarner, and to patentably distinguish over storage devices that utilize data compression techniques. For example, independent claim 1 has been amended in three respects. First, to distinguish over the free space list 70 of Voigt, in which the storage locations of the free space list are not accessible to a user of the storage system, claim 1 now recites that the at least one storage device has a "plurality of user-accessible storage locations." Second, to distinguish over the EEPROM main memory device 1 of Sarner, the storage system of claim 1 now recites that the storage system includes "a cache memory". A cache memory is nowhere disclosed, taught, or suggested in the EEPROM memory device of Sarner. Third, to distinguish over storage devices utilizing compression techniques, claim 1 now recites that the controller is capable of generating data that is "independent of any data passed from the host computer to the storage system." It is respectfully submitted that in storage devices utilizing compression techniques, the compressed data that is ultimately stored on the storage device is related to the uncompressed data provided by a host computer to the storage device; if it were not, the data stored thereon would be of no use. Independent claims 12, and 22 have been amended in a similar manner.

Claims 2-11, and 13-21 depend either directly or indirectly from one of independent claims 1 or 12, and are patentable for at least the same reasons.

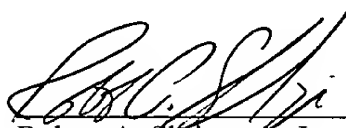
Attached hereto are marked-up versions of the changes made to the claims by the current amendment. The attached page is captioned "**MARKED-UP CLAIMS**".

CONCLUSION

In view of the foregoing remarks, this application should now be in condition for allowance. A notice to this effect is respectfully requested. If the Examiner believes, after this response, that the application is not in condition for allowance, the Examiner is requested to call the Applicants' attorney at the number listed below. If this response is not considered timely filed and if a request for an extension of time is otherwise absent, Applicants hereby request any necessary extension of time. If there is a fee occasioned by this response, including an extension fee, that is not covered by an enclosed check, please charge any deficiency to deposit account No. 23/2825.

Respectfully submitted,

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MARKED-UP CLAIMS

1. (Twice Amended) A storage system for use in a computer system including a host computer, the storage system comprising:

at least one storage device having a plurality of user-accessible storage locations;

a cache memory; and

a controller, coupled to the cache memory and the at least one storage device, that controls access to the at least one storage device from the host computer, the controller being capable of generating data that is independent of any data passed from the host computer to the storage system and writing the generated data to a first storage location of the plurality of storage locations on the at least one storage device in response to a communication from the host computer that does not include the generated data to be written to the first storage location.

2. (Twice Amended) The storage system of claim 1, wherein the first storage location includes a plurality of first storage locations on the at least one storage device, and wherein the controller is capable of generating the data that is independent of any data passed from the host computer to the storage system and writing the generated data to the plurality of first storage locations in response to a single command.

3. (Twice Amended) The storage system of claim 2, wherein the controller is capable of generating the data that is independent of any data passed from the host computer to the storage system having a predetermined state and writing the generated data having [a] the predetermined state to each of the plurality of first storage locations in response to the single command.

4. (Amended) The storage system of claim 2, wherein at least two storage locations of the plurality of first storage locations are perceived by the host computer to be non-contiguous storage locations on the at least one storage device, and wherein the controller is capable of writing the generated data to any of the at least two storage locations in response to a single command.

5. (Amended) The storage system of claim 2, wherein at least two storage locations of the plurality of first storage locations are perceived by the host computer to be storage locations on different storage devices of the at least one storage device, and wherein the controller is capable of writing the generated data to each of the at least two storage locations in response to a single command.

6. (Twice Amended) The storage system of claim 2, wherein the at least one storage device includes a plurality of storage devices, wherein at least two storage locations of the plurality of first storage locations are on different storage devices, and wherein the controller is capable of writing the generated data to each of the at least two storage locations in response to a single command.

8. (Amended) The storage system of claim 1, wherein the first storage location corresponds to a logical object defined by the computer system, the logical object being formed by a first group of the plurality of storage locations on the at least one storage device that includes the first storage location, and wherein the controller is capable of writing the generated data to only the first group in response to the single command.

9. (Amended) The storage system of claim 8, wherein the controller is capable of generating the data that is independent of any data passed from the host computer to the storage system having a predetermined state and writing the generated data having [a] the predetermined state to the first group in response to the single command.

10. (Amended) The storage system of claim 1, wherein the controller includes means for generating the data that is independent of any data passed from the host computer to the storage system.

12. (Amended) A method of operating a storage system in a computer system including the storage system and a host computer coupled thereto, wherein the storage system includes a cache memory and at least one storage device having a plurality of user-accessible storage locations, the

method comprising, in response to a communication received from the host computer, acts of:

- (A) generating, within the storage system, data that is independent of any data passed from the host computer to the storage system to be written to a first storage location of the plurality of storage locations on the at least one storage device; and
- (B) writing the generated data to the first storage location.

13. (Amended) The method of claim 12, wherein the first storage location includes a plurality of first storage locations on the at least one storage device, and wherein the act (B) includes an act of writing the generated data to the plurality of first storage locations in response to a single command received from the host computer.

14. (Amended) The method of claim 13, wherein the act (A) includes an act of generating the data that is independent of any data passed from the host computer to the storage system having a predetermined state [for writing] to be written to each of the plurality of first storage locations in response to the single command received from the host computer.

15. (Amended) The method of claim 13, wherein at least two storage locations of the plurality of first storage locations are perceived by the host computer to be non-contiguous storage locations on the at least one storage device, and wherein the act (B) includes an act of writing the generated data to any of the at least two storage locations in response to the single command received from the host computer.

16. (Amended) The method of claim 13, wherein at least two storage locations of the plurality of first storage locations are perceived by the host computer to be storage locations on different storage devices of the at least one storage device, and wherein the act (B) includes an act of writing the generated data to each of the at least two storage locations in response to the single command received from the host computer.

17. (Amended) The method of claim 13, wherein the at least one storage device includes a

plurality of storage devices, wherein at least two storage locations of the plurality of first storage locations are on different storage devices, and wherein the act (B) includes an act of writing the generated data to each of the at least two storage locations in response to the single command received from the host computer.

19. (Amended) The method of claim 12, wherein the first storage location corresponds to a logical object defined by the computer system, the logical object being formed by a first group of the plurality of storage locations on the at least one storage device that includes the first storage location, and wherein the act (B) includes an act of writing the generated data to only the first group in response to a single command received from the host computer.

20. (Amended) The method of claim 19, wherein the act (A) includes an act of generating the data that is independent of any data passed from the host computer to the storage system [to have] having a predetermined state [for writing] to be written to the first group in response to the single command.

22. (Amended) A storage system for use in a computer system including a host computer, the storage system comprising:

at least one storage device having a plurality of user-accessible storage locations;
a cache memory; and

a controller, coupled to the cache memory and the at least one storage device that controls access to the at least one storage device from the host computer, the controller being capable of writing data to a first storage location of the plurality of storage locations on the at least one storage device in response to a communication from the host computer that does not include the data to be written to the first storage location, the controller including means, responsive to the communication, for generating the data independently of any data passed from the host computer to the storage system.